

DETAILED ACTION

1. This communication is in response to Application No. 10/754,128 filed on 9 January 2004. Claims 1-9 have been examined.

Specification

2. The disclosure is objected to because of the following informalities: inconsistent use of reference characters. Page 6, line 5 of the applicant submitted specification contains the phrase “a server data storage medium 21”, which is inconsistent with Figure 4. This phrase should be changed to be --a server data storage medium 31--. Page 9, lines 2 and 3 of the applicant submitted specification contain the phrase “the first backup unit 312”, which is inconsistent with Figure 7. This phrase should be changed to be --the first backup unit 311--. Appropriate correction is required.

Claim Objections

3. Claim 3 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The subject matter in

claim 3 encompasses everything, as a backup inherently backs up at least one bit. For purposes of further examination this claim will be rejected under the same rationale as claim 1.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 4, this claim recites the clause/phrase “in accordance with” in line 3 of the claim, which is vague and indefinite. This phrase does not specify exactly how network traffic is considered with regard to the backup initiating decision. For purposes of further examination the examiner will consider a backup initiating decision performed with any regard to network traffic to meet this limitation.

Regarding claim 6, this claim recites the clause/phrase “is idle” in line 4 of the claim, which is indefinite. This phrase does not specify exactly when the client or server are determined to be “idle”, which could be determined based off CPU usage, user input, or a manner of other means. For purposes of further examination the examiner will

consider a backup initiating decision performed with any regard to the idleness of a terminal to meet this limitation.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claim 9 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claim 9, computer-related inventions whether descriptive or functionally descriptive material are non-statutory categories when claimed as descriptive material *per se* (see *Warmerdam*, 33 F.3d at 1360 USPQ2d at 1759), falling under the “process” category (i.e. inventions that consist of a series of steps or acts to be performed). See 35 U.S.C. 100(b) (“The term process means, art, or method, and includes a new or a known process, machine, manufacture, composition of matter or material”). Functional descriptive material: “data structures” representing descriptive material *per se* or computer program representing computer listing *per se* (i.e. software *per se*) when embodied in a computer-readable media are still not statutory because they are not capable of causing functional change in the computer. However, a claimed computer-readable *storage* medium encoded with a data structure, computer listing or computer

program, having defined structural and functional interrelationships between the data structure, computer listing or computer program and the computer software and hardware component, which permit the data structure's, listing or program's functionality to be realized, is statutory (see MPEP §2106).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-5 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Whiting et al (US 5,778,395) referred to as Whiting hereafter.

Regarding claim 1, Whiting teaches a method for remote data management (abstract specifies backups) to be implemented using a remote server terminal (specifies a shared file server) and a client terminal (specifies the network having multiple nodes) having a network connection with the server terminal (abstract specifies it is over a network), the client terminal having a client data storage medium (abstract specifies volumes on each client node), the server terminal having a server data storage medium

(abstract specifies writing to backup storage means on the server; Figure 1 item 101 depicts a storage disk), the method comprising:

a) performing an initial backup operation for making a backup of initial contents of the client data storage medium in the server data storage medium (abstract specifies an initial backup to retrieve the client data contents);

b) performing another backup operation for making a backup of only modified contents of the client data storage medium in the server data storage medium upon detecting that the contents of the client data storage medium have been modified since a latest backup operation was performed, wherein the back up of the modified contents of the client data storage medium is stored in the server data storage medium without overwriting the backups made as a result of previous backup operations (abstract specifies performing a second backup operation in an incremental fashion and backing up only the files that have changed. Incremental backups inherently do not overwrite themselves as they only contain the data that differ from the last).

Regarding claim 2, Whiting teaches wherein the backup made in step a) includes initial sector information of the client data storage medium, (Figure 6, items 160, 178, and 175; col 13, line 36 – col 14, line 4 specify the backup file information which includes initial file information for the initial backup) and the backup made in step b) includes sector information of the client data storage medium since the latest backup operation was performed. (col 13, line 36 – col 14, line 4 specify the backup file information stored, which includes pointers to the file locations; See also col 14, line 5-25)

Regarding claim 3, Whiting teaches wherein the backups made in steps a) and b) are in units of a byte size that is at least one bit (abstract specifies that differences in files may be computed to be stored and may be therefore be of variable size; Any backup is inherently at least a single bit).

Regarding claim 4, Whiting teaches wherein said another backup operation is initiated by one of the client and server terminals in accordance with network traffic between the client and server terminals (col 34, lines 14-17 specifies the possibility of having backups with network traffic in mind)

Regarding claim 5, Whiting teaches wherein said another backup operation is initiated by one of the client and server terminals at a scheduled time (col 35, line 64 – col 36, line 4 specify that the user can specify periodic times for scheduling backups).

Regarding claim 7, Whiting teaches further comprising:

c) optionally restoring the client terminal to a state when a selected previous backup operation was performed (col 31, lines 49-65 specify the two preferred restore methods, one based off choosing a time and viewing all files backed up, the other choosing a file and viewing all times it was backed up).

Regarding claim 8, Whiting teaches wherein, in step c), the backups made in the server at times not later than that when the selected previous backup operation was performed

are linked together and transmitted to the client terminal for storage in the client data storage medium (abstract specifies this is an incremental backup technique being used, which when restored inherently has to link the previous backups in order to recreate the files; col 31, line 66 – col 32, line 34 specify that the backup data can then be restored by copying files back to the client, or mounted at the server as a file system, browsed, and then copied back to the client using preferred programs).

Regarding claim 9, this program claim comprises limitations substantially similar to that of claim 1 and the same rationale of rejection is used, where applicable.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Whiting et al (US 5,778,395), and further in view of Bolt et al (US 6,038,665).

Regarding claim 6, Whiting teaches wherein said another backup operation is initiated under consideration of several variables such as network traffic and periodic scheduling.

Whiting does not teach wherein the consideration is whether the client or server terminals are idle.

Bolt, in a similar field of endeavor, teaches wherein the client terminal is monitored as to whether it is currently receiving user input and the CPU is processing, and if it is not busy then proceeding with the backup operation. (Bolt: col 12, lines 46-56 specifies transmitting data only when the CPU is idle)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Bolt for transmitting backup data only when the CPU was idle. The teachings of Bolt, when implemented in the Whiting system, will allow one of ordinary skill in the art to transmit backup information only when the CPU is idle. One of ordinary skill in the art would be motivated to utilize the teachings of Bolt in the Whiting system in order to backup data under optimal circumstances, such as when a user isn't inputting data or when the CPU isn't processing other applications.

Cited Pertinent Art of Record

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Morris (US 5,574,906) discloses a system for remote incremental backup using compression comparisons.
- b. Cane et al (US 5,765,173) discloses a system for optimizing incremental backups by blocking data together and creating signatures and then using signature comparisons to determine backup decisions.
- c. Beeler, Jr. (US 5,819,020) discloses a system for incremental backups that occur in real-time while a user is changing a file.
- d. Coombs (US 2003/0177149 A1) discloses a system and method for backing up data on a network via incremental backups.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Nickerson whose telephone number is 571-270-3631. The examiner can normally be reached on M-Th, 8:30-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beatriz Prieto can be reached on 571-272-3902. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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